



MARINE MAMMAL COMMISSION

30 September 2015

Ms. Jolie Harrison, Chief
Permits and Conservation Division
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910-3225

Re: Permit Application No. 19439
(Daniel Costa, Ph.D.,
University of California Santa Cruz)

Dear Ms. Harrison:

The Marine Mammal Commission (the Commission), in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the above-referenced permit amendment request with regard to the goals, policies, and requirements of the Marine Mammal Protection Act (the MMPA). Dr. Costa proposes to conduct research on pinnipeds in Antarctica during a five-year period—permit 87-1851 authorized similar activities.

Dr. Costa proposes to conduct research on six pinniped species in Antarctica, primarily on the Western Antarctic Peninsula and in the Ross Sea. The purpose of the research is to investigate foraging ecology, diving behavior, physiology, and habitat use and movement patterns of pinnipeds in the Southern Ocean. Dr. Costa and co-investigators would harass, capture¹, handle, restrain, measure/weigh, sedate², conduct procedures³ on, sample⁴, mark/tag⁵, and/or attach instruments to numerous individuals of various age classes and both sexes per year (see the Take Table). Researchers could attach instruments to juvenile or adult pinnipeds that comprise no more than 1 percent of their body mass. Those instruments could include VHF transmitters, satellite transmitters, accelerometers⁶, GPS transmitters, CTD tags, time-depth recorders, and video/still cameras. Tags would either be allowed to fall off during the seal's annual molt or would be removed by the researchers at a later time. If the researchers conduct activities on lactating females with pups, they would hold the pup until the female has recovered from anesthesia and they can be reunited⁷.

Dr. Costa could collect expelled placentae, scat, and parts from carcasses. All samples could be imported or exported for analyses. He also could harass incidentally non-target pinnipeds during

¹ Animals could be recaptured to conduct additional sampling and/or remove instruments.

² Including remotely-delivered sedation (i.e., darting).

³ Including conducting ultrasound, stomach lavage, and enemas and administering Evan's blue dye and deuterium oxide and collecting serial blood samples.

⁴ Including blood, feces, spew, urine, skin, blubber, muscle, hair, vibrissae, swabs, milk (from lactating females), and/or umbilicus tissue (from unweaned pups).

⁵ Including dye/bleach, flipper tags, and/or PIT tags.

⁶ Including jaw accelerometers.

⁷ The female-pup pair also would be monitored for at least 1 hour after they are reunited.

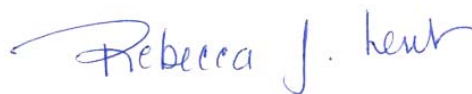
the proposed activities. To minimize impacts on non-target female-pup pairs, Dr. Costa will not capture animals in close proximity to non-target pairs. In addition, Dr. Costa requests up to 4 mortalities⁸ for each species per year and 10 mortalities for each species during the 5-year period—all dead seals would be necropsied. If a lactating female dies as a result of research activities and her dependent pup can be identified, Dr. Costa would euthanize it if necessary. Further, Dr. Costa would coordinate his activities with other pinniped researchers working in Antarctica.

A portion of the research protocols has been reviewed and approved by one of the co-investigator's Institutional Animal Care and Use Committee (IACUC), and Dr. Costa's IACUC is currently in the process of reviewing all of the research protocols. In the past, the Commission has had concerns regarding darting animals. Dr. Costa indicated that either a veterinarian or researchers with experience working in Antarctica and sedating seals would be darting the animals, and darting would be used only when capture and restraint of an animal is not possible using traditional capture methods. When darting an animal on pack ice, they would only administer sufficient anesthetic agents to slow the animal down, so that they can approach and net it. Once the animal is netted and fully restrained, additional anesthetic agents would be administered to fully immobilize it. If an animal enters the water after being darted, Dr. Costa indicated that the dosage administered would slow the animal down but not prevent it from swimming and reaching the surface to breathe. They also could administer reversals, if necessary.

Since darting does have inherent risks and has not been conducted on all of the species proposed to be captured, the Commission believes that the National Marine Fisheries Service (NMFS) should continue to take a precautionary approach, as it has with authorizing darting activities under the Steller sea lion and bearded seal permits. Therefore, the Commission recommends that NMFS condition the permit to require monitoring of pinnipeds that have been darted and report on (1) their behavioral response and any activities that place them at heightened risk of injury or death, (2) whether they entered the water and their fate could not be determined, and (3) whether the dependent pups of those darted pinnipeds are abandoned, injured, or killed⁹ and whether the pups' behavior in response to darting the females is notably different from their response to other capture methods. The Commission further recommends that NMFS condition the permit to halt the use of the darting technique and consult with NMFS and the Commission if three or more pinnipeds are darted and suffer unanticipated adverse effects, including entering the water and either drowning or disappearing so that their fate cannot be determined.

The Commission believes that the proposed activities are consistent with the purposes and policies of the MMPA. Please contact me if you have any questions regarding the Commission's recommendations.

Sincerely,



Rebecca J. Lent, Ph.D.
Executive Director

⁸ By either unintentional mortality or intentional mortality (i.e., euthanasia for humaneness purposes).

⁹ Either by other pinnipeds or by the researchers.